



Inspiring Young Minds  
Through Knowledge Olympiads

CLASS

6

QUESTION PAPER SET

C

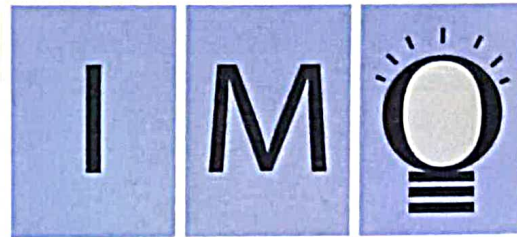


DO NOT OPEN THIS BOOKLET UNTIL ASKED TO DO SO

Name:.....  
SOF Olympiad Roll No.:.....  
Contact No.:.....

Total Questions: 50

Time: 1 hr.



SOF INTERNATIONAL  
MATHEMATICS OLYMPIAD  
2022-23

### Guidelines for the Candidate

1. You will get additional ten minutes to fill up information about yourself on the OMR Sheet, before the start of the exam.
2. Write your **Name, School Code, Class, Roll No.** and **Mobile Number** clearly on the **OMR Sheet** and do not forget to sign it. We will share your marks / result and other information related to SOF exams on your mobile number.
3. The Question Paper comprises four sections:  
**Logical Reasoning** (15 Questions), **Mathematical Reasoning** (20 Questions), **Everyday Mathematics** (10 Questions) and **Achievers Section** (5 Questions)  
Each question in Achievers Section carries 3 marks, whereas all other questions carry one mark each.
4. All questions are compulsory. There is no negative marking. Use of calculator is not permitted.
5. There is only ONE correct answer. Choose only ONE option for an answer.
6. To mark your choice of answers by darkening the circles on the OMR Sheet, use **HB Pencil** or **Blue / Black ball point pen** only. E.g.  
Q.16: Rahul bought 4 kg 90 g of apples, 2 kg 60 g of grapes and 5 kg 300 g of mangoes. The total weight of all the fruits he bought is\_\_\_\_\_.  
A. 11.450 kg      B. 11.000 kg      C. 11.350 kg      D. 11.250 kg  
As the correct answer is option A, you must darken the circle corresponding to option A on the OMR Sheet.      16. ● (B) (C) (D)
7. Rough work should be done in the blank space provided in the booklet.
8. Return the OMR Sheet to the invigilator at the end of the exam.
9. Please fill in your personal details in the space provided on this page before attempting the paper.

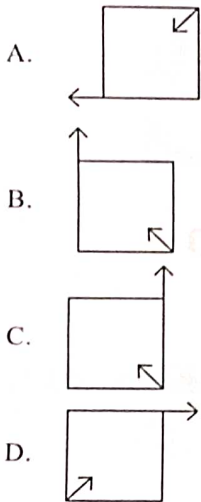


## LOGICAL REASONING

1. In a row of boys, Vinit is fifth from the left end and Rohit is sixth from the right end. When they interchange their positions, Vinit becomes 15<sup>th</sup> from the left end. What will be the position of Rohit from the right end in new arrangement?

A. 15<sup>th</sup>  
 B. 16<sup>th</sup>  
 C. 9<sup>th</sup>  
 D. 14<sup>th</sup>

2. Select the odd one out.



3. Select the incorrect number in the given number series.

2, 13, 68, 345, 1718

A. 68  
 B. 345  
 C. 1718  
 D. 13

4. In a certain code language, DOCTOR is coded as EQFUQU. How will DANCER be coded in the same code language?

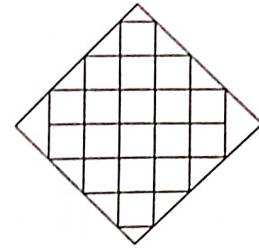
A. CZMBDQ  
 B. ACDENR  
 C. ECQDGU  
 D. FCPEGT

5. Sakshi walks 10 m towards South. Then she turns left and walks 15 m. Again, she takes a right turn and walks 25 m. Finally, she moves 15 m after taking a right turn. How far is she now from her starting point?

A. 40 m

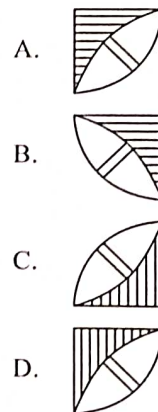
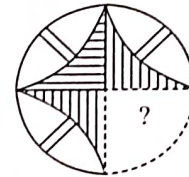
B. 35 m  
 C. 25 m  
 D. 30 m

6. Find the number of squares formed in the given figure.

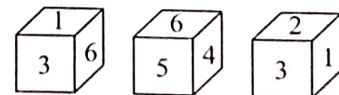


A. 22  
 B. 23  
 C. 25  
 D. More than 25

7. Which of the following options will complete the pattern in the given figure?



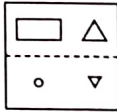
8. Three different positions of a dice are shown below.



Which number is on the face opposite to the face having number 5?

A. 1  
 B. 4  
 C. 3  
 D. 2

9. A square transparent sheet with a pattern and a dotted line on it is given. Select a figure from the options as to how the pattern would appear when the transparent sheet is folded along the dotted line.



- A.
- B.
- C.
- D.

10. Find the missing number, if a certain rule is followed either row-wise or column-wise.

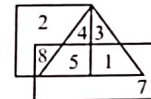
5	8	9
10	15	25
7	17	?

- A. 75  
B. 100  
C. 90  
D. 110
11. Pointing towards a photograph, Maira says, "He is the only son of the only brother of my mother." How is the person in the photograph related to Maira?  
A. Cousin  
B. Father  
C. Uncle  
D. Can't say
12. If all the digits are removed from the given arrangement, then which of the following is third to the left of fifth element from the right end?

Z @ K 7 # 5 N U 3 • ! 2 J M L I I ? W Y S

- A. I  
B. J  
C. U  
D. !

13. In the given Venn diagram, square represents the students who like Science, rectangle represents the students who like Mathematics and triangle represents the students who like English. Which number represents the students who like English and Mathematics but not Science?



- A. 7  
B. 5  
C. 1  
D. 4

14. Select the correct water image of the given word.

FICTION

- A. EICLION  
B. NOITCIF  
C. NOILCIE  
D. FICLION

15. Select a figure from the options in which the given figure is exactly embedded as one of its parts.



- A.
- B.
- C.
- D.

## MATHEMATICAL REASONING

16. What is the smallest value of 'a' so that 236a63 is divisible by 3?  
A. 4  
B. 1  
C. 7  
D. 3

17. What is the difference between the successor of the greatest four digit number and predecessor of the smallest four digit number?  
A. 8999  
B. 1009  
C. 9899  
D. 9001






18. Subtract the sum of  $2\frac{5}{12}$  and  $3\frac{3}{4}$  from the sum of

$7\frac{1}{3}$  and  $4\frac{1}{6}$ .

- A.  $5\frac{1}{3}$
- B.  $1\frac{2}{15}$
- C.  $\frac{12}{15}$
- D.  $2\frac{1}{5}$

19. A school's football team washed bikes every Sunday for a month to raise money for the local children's hospital. The students charged ₹ 100 for each bike they washed. The pictograph below shows the total number of bikes washed by the team.





**Bike Wash Fundraiser**

Sunday	Number of bikes washed
1 <sup>st</sup>	
2 <sup>nd</sup>	
3 <sup>rd</sup>	
4 <sup>th</sup>	
Each  = 15 bikes	

What is the total amount of money raised by the football team?

- A. ₹ 12000
- B. ₹ 18000
- C. ₹ 55000
- D. ₹ 16000

20. Which of the following is not a simple closed figure?

- A. 
- B. 
- C. 
- D. 

21. How many right angles will you make, if you face South and turn clockwise to East?

- A. Two
- B. Three
- C. One
- D. Five

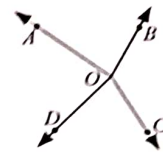
22. Rohit is at -13 on the number line. If he moves 8 integers right on the number line, then where will he reach on the number line?

- A. -21
- B. 5
- C. 21
- D. -5

23. How many composite numbers are there between 50 and 75?

- A. 12
- B. 14
- C. 15
- D. More than 15

24. Find the total number of angles formed in the given figure.



- A. 5
- B. 3
- C. 4
- D. More than 5

25. The side of a square is 18 m and breadth of a rectangle is 29 m. Find the length of the rectangle if its perimeter is numerically half of the area of the square.

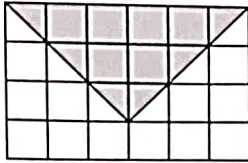
- A. 62 m
- B. 48 m
- C. 38 m
- D. 52 m

26. The given figure shows 4 nails of different lengths. What is the length of the shortest nail?



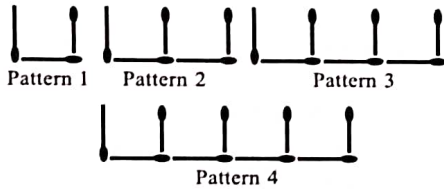
- A. 7.8 cm
- B. 8.2 cm
- C. 7.6 cm
- D. 8.1 cm

27. What is the ratio of unshaded area to the shaded area in the given figure?



- A. 4:5
- B. 5:3
- C. 3:5
- D. 1:1

28. Find the number of matchsticks used in pattern 37.



- A. 56
- B. 84
- C. 68
- D. 75

29. If the digits 6 and 9 in 2894236 are interchanged, then 1342 less than the new number formed is \_\_\_\_\_.

- A. 2862897
- B. 3842896
- C. 7484342
- D. 1123474

30. Which of the following is not an equivalent fraction

of  $\frac{17}{19}$ ?

- A.  $\frac{119}{178}$
- B.  $\frac{153}{171}$
- C.  $\frac{136}{152}$
- D.  $\frac{102}{114}$

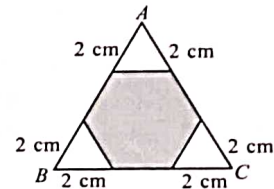
31. Find the value of  $115 \div 23 - 17 \times 3 + 48 - 20$ .

- A. -18
- B. 28
- C. 40
- D. -25

32. A container can hold  $18\frac{5}{7}$  litres of mustard oil. How much quantity of mustard oil can be held in 14 such containers?

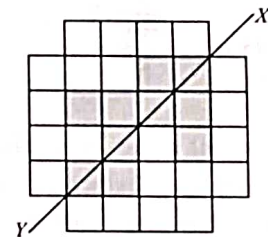
- A. 178 litres
- B. 262 litres
- C. 195 litres
- D. 248 litres

33.  $\triangle ABC$  is an equilateral triangle whose each side is 6 cm long. Find the perimeter of the shaded regular hexagon.



- A. 18 cm
- B. 24 cm
- C. 12 cm
- D. 36 cm

34. What is the smallest number of squares that must be shaded so that the line  $XY$  becomes the line of symmetry?



- A. 4
- B. 5
- C. 6
- D. 3

35. A whole number is added to 50 and the same number is subtracted from 50. Find the sum of the resulting numbers.

- A. 0
- B. 25
- C. 50
- D. 100



## EVERYDAY MATHEMATICS

36. In an international cricket match, Indian cricket team scored 375 runs. Out of 375 runs, Rohit Sharma scored 165 runs. What fraction of total runs is scored by other team members?
- A.  $\frac{11}{25}$   
 B.  $\frac{14}{25}$   
 C.  $\frac{12}{25}$   
 D.  $\frac{13}{25}$
- 
37. Three brothers  $A$ ,  $B$  and  $C$  deposited ₹ 9,87,797 in a bank.  $A$  and  $B$  deposited equal amount of money. If  $C$  deposited ₹ 3,75,263, then find the amount of money deposited by  $B$ .
- A. ₹ 3,06,267  
 B. ₹ 2,06,276  
 C. ₹ 2,60,267  
 D. ₹ 3,60,276
- 
38. In a hostel, the weekly consumption of rice and wheat together is 259.70 kg. If weekly consumption of rice is 124.25 kg, then find the weekly consumption of wheat.
- A. 145.25 kg  
 B. 135.45 kg  
 C. 145.45 kg  
 D. 135.25 kg
- 
39. Three bells toll at an intervals of 15, 24 and 36 seconds. If all three bells toll together at 7:35 a.m., then when will they toll together again?
- A. 7:41 p.m.  
 B. 7:38 p.m.  
 C. 7:41 a.m.  
 D. 7:38 a.m.
- 
40. The pocket money of Soni is ₹10 less than her brother Sam. If the pocket money of Soni is ₹  $m$ , then find the pocket money (in ₹) of Sam.
- A.  $m \times 10$   
 B.  $m - 10$   
 C.  $m + 10$   
 D.  $m \div 10$
- 
41. Rachit walks 1500 m by covering five times around a rectangular ground. If the length of the ground is two times its breadth, then find its length.
- A. 50 m  
 B. 100 m  
 C. 150 m  
 D. 75 m
- 
42. The ratio of the volume of water in Bottle  $P$  to the volume of water in Bottle  $Q$  is 3 : 4. Rajeev drank 40 mL of the water from Bottle  $P$  and then the ratio becomes 13 : 20. How much water was there in bottle  $P$  at first?
- A. 60 mL  
 B. 80 mL  
 C. 300 mL  
 D. 400 mL
- 
43. A company makes a profit of "Ninety five million sixty four thousand five hundred sixty" in financial year 2020-2021. What is the numeral form of this number?
- A. 95,640,560  
 B. 95,064,560  
 C. 95,064,506  
 D. 95,604,506
- 
44. The total cost of flooring a room is ₹ 2160. The rate of flooring is ₹ 45 per square metre. If the room is 8 metres long, then find its breadth.
- A. 11 m  
 B. 7 m  
 C. 12 m  
 D. 6 m
- 
45. Aman appeared for an exam, which consisted of 50 questions. 5 marks are rewarded for every correct answer, 2 marks are deducted for every wrong answer and no marks are given for unattempted question. Find the total marks scored by Aman, if he gave 40 correct and 6 incorrect answers.
- A. 175  
 B. 165  
 C. 188  
 D. 155

## ACHIEVERS SECTION

46. Select the incorrect option.
- A. Two lines are perpendicular, if they intersect each other at right angle.
- B. ☆ is a closed curve.
- C. Three or more points are said to be collinear, if they lie on a same line.
- D. None of these

47. Solve the following questions and select the correct option.

- (i) It takes 90 minutes to wash 20 vehicles at a car wash. At this rate, how many minutes will it take to wash 5 vehicles?
- (ii) The ratio of monthly pocket money of Manav to Rupanshu is 9:4. If the monthly pocket money of Manav is ₹ 603, then find the monthly pocket money of Rupanshu.

	(i)	(ii)
A. $22\frac{1}{2}$ mins	₹ 268	
B. 20 mins	₹ 442	
C. 25 mins	₹ 364	
D. $22\frac{1}{2}$ mins	₹ 512	

48. Fill in the blanks and select the correct option.
- (a) The smallest number which when divided by 26, 52 and 64 leaves 7 as the remainder in each case is P.
- (b) The least value that should be given to \* so that the number  $915*26$  is divisible by 9 is Q.

	P	Q
A. 964	6	
B. 1671	4	
C. 1232	5	
D. 839	4	

49. Study the following statements carefully and select the correct option.

**Statement-I:** Manish bought total 60 notebooks for his two children. If he gave two-third of the total number of notebooks to his daughter and remaining to his son, then his son got 20 notebooks.

**Statement-II:** Rahul reads 380 pages out of 665 pages of a book. He still needs to read  $\frac{4}{7}$  of total pages of the book .

- A. Both Statement-I and Statement-II are true.
- B. Both Statement-I and Statement-II are false.
- C. Statement-I is true but Statement-II is false.
- D. Statement-I is false but Statement-II is true.

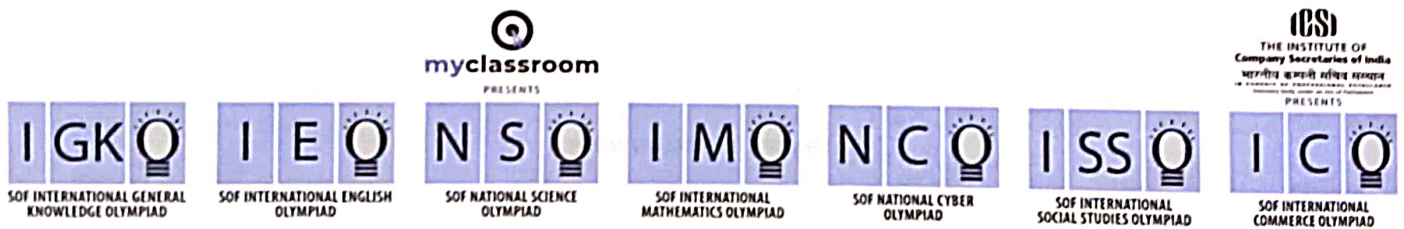
50. Read the given statements carefully and state 'T' for true and 'F' for false.


- (i) If 10 is added to three times of smallest whole number, then the number obtained is 10.
- (ii) The product of successor and predecessor of 1 is 2.
- (iii) The value of  $105 \times 11 - 11 \times 105$  is 0.

	(i)	(ii)	(iii)
A. F	F	T	
B. T	F	T	
C. T	T	F	
D. F	T	F	

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SPACE FOR ROUGH WORK

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